

6. (Unchanged) A signal processing, modulation, transmission, signal reception and demodulation system, for Bit Rate Agile (BRA), Modulation Demodulation (Modem) Format Selectable (MFS) and Code Selectable (CS) systems comprising:

(a) means for input port for receiving input data;

(b) splitter means serving for BRA, MFS and CS signal splitting, having an input coupled to said input port, and serving to split said input data into baseband signal streams;

(c) means for BRA, MFS and CS baseband signal processing;

(d) means for receiving said baseband signal stream and providing for BRA, MFS and CS systems changeable amounts of cross-correlation between Time Constrained Signal (TCS) response processors combined with TCS and Long Response (LR) processors;

(e) means for cross-correlated processed in phase (I) and quadrature (Q) phase baseband signals for quadrature modulation to the I and Q input ports of the Quadrature Modulator (QM);

(f) means for an interface unit to provide said quadrature modulated data to the transmission medium;

(g) means for a receiver interface unit for connection of the received cross-correlated signal to the BRA and MFS demodulator;

(h) means for BRA, MFS and CS demodulation; and 11 a

(i) means for post-demodulation Mis-Matched (MM) filtering of the BRA MFS and CS demodulated signals in which the MM demodulator filters are mis-matched to that of the BRA and MFS filters.

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h. (Amended) A structure comprising:

a input port for receiving baseband signals; and

a baseband signal processing network for receiving said baseband signals and providing cross-correlated bit rate agile Peak Limited (PL) in-phase and quadrature-phase baseband signals.